UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/822,539	03/30/2001	Priya Govindarajan	042390.P10459	7662

		EXAMINER
7590	11/03/2005	CASIANO, ANGEL L

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ART UNIT	PAPER NUMBER
2182	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
	09/822,539	GOVINDARAJAN ET AL.
Office Action Summary	Examiner	Art Unit
	Angel L. Casiano	2182

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>06 July 2005</u>.

2a) ☒ This action is **FINAL.**   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-22</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-22</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____.

        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1. The present Office action is in response to Appeal Brief dated 06 July 2005. The Office

hereby reopens prosecution of the application.

2. Claims 1-22 are pending in the application.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or
> described as set forth in section 102 of this title, if the differences between the subject
> matter sought to be patented and the prior art are such that the subject matter as a whole
> would have been obvious at the time the invention was made to a person having ordinary
> skill in the art to which said subject matter pertains. Patentability shall not be negatived
> by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness
    or nonobviousness.

5. Claims 1-4, 6-8, 10-12, 14-18, and 21-22 rejected under 35 U.S.C. 103(a) as being

unpatentable over Nelson et al. [US 5,835,720] in view of Melchione et al. [US

2002/0091819 A1].

Regarding claim 1, Nelson et al. teaches a method including the steps of <u>identifying</u> a second network device at a first network device (see *"discovering devices* on a network"; Abstract); sending a message from the first network device to the second network device, the message <u>establishing the identity</u> of any network device between the first network device and the second network device (see "using an ARP table from at least one device on the network to *identify other devices on the network"*; col. 1, lines 58-67); compiling the established identities to determine the <u>topology</u> of the network (see col. 2, lines 24-32; "identify devices on the retrieved ARP table, access information from the identified devices, and *add the information to the network topology database"*).

However, Nelson et al. fails to teach the steps of (i) registering a first network device and a second network device to a policy server and (iii) receiving discovery policies from the server at the devices. Melchione teaches the step of (i) <u>registering</u> a first network device and a second network device to a policy server (see Abstract; Page 10, claim 1, "policy orchestrator sever"). In addition, Melchione explicitly teaches (ii) <u>receiving</u> discovery policies from the server at the devices (see Page 10, claim1: *"determine a policy for each node* in the hierarchical tree structure, and *communicate* said policy to the corresponding node"). The Melchione reference first "defines the network topology" of nodes corresponding to the network of devices prior to "defining the policies corresponding to them" (see Page 10, claim 1).

At the time of the invention, one of ordinary skill in the art would have been motivated to combine the cited disclosures in order to obtain a method allowing not only configuration, but also management and monitoring of computer applications and devices in a network using inheritance, as taught by Melchione et al. (see Abstract).

As for claim 2, the Nelson et al. reference teaches identifying a network device by receiving an address for another device (see col. 2, lines 10-16).

As per claim 3, Nelson et al. teaches sending a packet from a network device, having an interface to an address of the second network device and selecting an interface that corresponds to any reply received from the second network device (see Abstract; col. 3, lines 31-39, 60-61; col. 6, lines 2-5). Although the combination of prior art does not literally cite a "network device" having "a plurality of network interfaces", it does suggest a variety of network devices (see Nelson, col. 2, lines 66-67). Accordingly, it would have been obvious to one of ordinary skill in the art that the devices suggested by the combination of prior art would have included a plurality of interfaces (e.g. "hubs").

As for claim 4, Nelson explicitly teaches sending a PING packet from a device (see Abstract, claims).

As per claim 6, Nelson et al. explicitly teaches executing a Traceroute utility to determine the route of a packet (see col. 9, line 58).

As for claim 7, Nelson et al. teaches a method including the steps of identifying a network device at a given network device (see Abstract); as well as sending a message from a network device to another network device, the message establishing the identity of any network device

between the devices (see col. 1, lines 58-67); compiling the established identities to determine

the topology of the network (see col. 2, lines 24-32).

As per claim 8, Nelson et al. teaches sending a packet from a network device to another

network device (see Abstract; col. 3, lines 31-39, 60-61; col. 6, lines 2-5). Although the prior art

combination does not literally cite a "third network device" it does suggest a variety of network

devices (see Nelson, col. 2, lines 66-67) as part of the cited method. Accordingly, it would have

been obvious to one of ordinary skill in the art that the devices suggested by Nelson et al. would

have included a plurality of ports (e.g. "hubs"). In addition, the reference compiles the identified

addresses (see col. 3, lines 39-44).

Regarding claims 10-12 and 14-15, these correspond to the *machine-readable medium*

having stored thereon data representing sequences of instructions corresponding to the method

previously rejected in the present Office action. These claims are rejected under the same

rationale presented in claim 1.

Regarding claim 16, Nelson et al. teaches a method including the steps of identifying a

second network device at a first network device (see Abstract); sending a Traceroute message

from the first network device to the second network device, the message establishing the identity

of any network device between the first network device and the second network device (see col.

1, lines 58-67; col. 9, line 58); compiling the established identities to determine the topology of

the network (see col. 2, lines 24-32). Nonetheless, Nelson et al. fails to teach the steps of

registering a first network device and a second network device to a policy server and receiving

discovery policies from the server at the devices.

Melchione teaches the steps of (i) registering a first network device and a second network

device to a policy server (see Abstract; Page 10, claim 1, "policy orchestrator sever") and (ii)

receiving discovery policies from the server at the devices (see Page 10, claim1: "*determine a*

policy for each node in the hierarchical tree structure, and *communicate* said policy to the

corresponding node"). The Melchione reference first "defines the network topology" of nodes

corresponding to the network of devices prior to "defining the policies corresponding to them"

(see Page 10, claim 1).

At the time of the invention, one of ordinary skill in the art would have been motivated to

combine the cited disclosures for the reasons stated above.

As for claim 17, the Nelson et al. reference teaches identification of a network device by

receiving an address for another device (see col. 2, lines 10-16).

As per claim 18, Nelson et al. teaches sending a packet from a network device, having an

interface to an address of the second network device and selecting an interface that corresponds

to any reply received from the second network device (see Abstract; col. 3, lines 31-39, 60-61;

col. 6, lines 2-5). Although the prior art combination does not literally cite a "network device"

having "a plurality of network interfaces", it does suggest a variety of network devices (see

Nelson, col. 2, lines 66-67). Accordingly, it would have been obvious to one of ordinary skill in

the art that the devices suggested by Nelson et al. would have included a plurality of interfaces

(e.g. "hubs"). The reference explicitly teaches sending a PING packet from a device (see Abstract, claims).

As for claim 21, the method in Melchione et al. (see Figure 11, " policy server 150") receives the identities (see "determines a hierarchical tree structure based upon location of devices", Abstract) in accordance to the received policy. One of ordinary skill in the art would have been motivated to combine the cited references for the reasons stated in claim 1.

As for claim 22, Melchione et al. teaches compiling (see "determining" "based upon location" of the "devices") the identities at the policy server to determine the topology of the network.

6. Claims 5, 13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al. [US 5,835,720] in view of Melchione et al. [US 2002/0091819 A1] in further view of Aggarwal et al. [US 5,675,741].

As per claim 5, the combination of prior art (Nelson et al. in view of Melchione et al.) does not explicitly teach a method, wherein the step of sending the message comprises sending a plurality of messages to the second network device, each message having an *incrementally* greater time to live until a message reaches the second network device. Regarding this limitation, Aggarwal et al. teaches a method in a computer network communication system, where a packet has an incrementing TTL (time-to-live) value (see col. 2, lines 42-47). At the

time of the invention, one of ordinary skill in the art would have been motivated to modify the

cited combination of disclosures in order to obtain a communication method where a route is

successfully traced from any source to any destination regardless of whether one router is known

(see Aggarwal).

As for claim 13, this corresponds to the *machine-readable medium* having stored thereon

data representing sequences of instructions corresponding to the method previously rejected in

the present Office action. Therefore, this claim is rejected under the same rationale.

As per claim 19, the combination of prior art (Nelson et al. in view of Melchione et al.) does

not explicitly teach a method, wherein the step of sending the message comprises sending a

plurality of messages to the second network device, each message having an *incrementally*

greater time to live until a message reaches the second network device. Regarding this

limitation, Aggarwal et al. teaches a method in a computer network communication system,

where a packet has an incrementing TTL (time-to-live) value (see col. 2, lines 42-47). At the

time of the invention, one of ordinary skill in the art would have been motivated to modify the

cited combination of disclosures for the reasons stated above.

7. Claims 9 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al.

    [US 5,835,720] in view of Melchione [US 2002/0091819 A1] in further view of Fishler [US

    6,507,646 B1].

As for claims 9 and 20, the combination of references (Nelson et al. in view of Melchione et al.) teaches a method where a network device sends a message identifying an address. However, the combination of references does not teach sending a packet to a port that does not exist in order to provoke a device to send an error message. Regarding this limitation, Fishler teaches error reporting protocol as part of a communication method (see col. 7, lines 39-55). Fishler teaches implementing this protocol as part of ICMP (Internet Control Message Protocol). Accordingly, one of ordinary skill in the art would have been motivated to modify the combination of references in order to implement an error-reporting message in a method for remotely configuring a network device.

Response to Arguments

8. Applicant's arguments, see Appeal Brief, filed 06 July 2005, with respect to the rejection(s) of claim(s) 1-22 under 35 U.S.C. § 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Melchione et al. [US 2002/0091819 A1].

9. Examiner would like to address the issues raised by the Applicant in the Appeal Brief, in particular with regards to claim 1.

   a. The main issue presented by the Applicant was whether the references teach "receiving network discovery policies from the policy server" and "sending a message from the first network device to the second network device, the message establishing the identity of any network device between the first network device and the second network device in accordance with the received policies".

    i. The "receiving" step

        1. Regarding this limitation, the Examiner respectfully submits that Melchione et al. teaches receiving discovery policies from the server at the devices (see Page 10, claim1: "determine a policy for each node in the hierarchical tree structure, and communicate said policy to the corresponding node").

    ii. The "sending" step

        1. Regarding this limitation, the Examiner respectfully submits that Nelson et al. teaches "using an ARP table from at least one device on the network to identify other devices on the network" in col. 1, lines 58-67. Examiner further submits that this is, according to Nelson, a "method of discovering devices on a network" (see col. 1, lines 59-60). Therefore, the manner in which this method discovers the network devices is by using a table from one device (a "first" device) and using this accessed table to identify other devices (one or more "second" device(s)) on the network.

  b. Although Reichmeyer is not cited as prior art in this present Office action, Applicant argues against it in the Appeal Brief, citing that the reference "has a network with a manually predetermined topology" (Page 7 of the Brief). In arguing patentability, Applicant further states that "the network topology is not discovered automatically and it would not be obvious to combine the two references to create a system that automatically discovers the network" (Pages 7 and 8 of the Brief). Examiner notes

that claim 1 simply read, "compiling the established identities to determine the topology of the network". Nowhere in this claim is mentioned that the topology determination is done "automatically". In response to applicant's argument that the references fail to show this particular feature of applicant's invention, it is noted that the features upon which applicant relies (i.e., automatic discovery) are not recited in the rejected claim(s). Examiner respectfully reminds Applicant that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

   a. Nomura et al. [US 20010019554 A1] teaches a "policy server PSV determines aggregates of IP flows and explicit routes spontaneously in accordance with requests from the managers and the routers from LSR1 to LSR5 and topology changes, and notifies the ingress router LSR1 of the determinations. The policy on what to be determined is registered in a directory server beforehand and the policy server PSV stores it in its cache memory according to need".

   b. Mandal et al. [US 6,170,009 B1] teaches a method, "wherein the request is received at a policy server that facilitates the creation and implementation of policies for controlling devices on the network"

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angel L. Casiano whose telephone number is 571-272-4142. The examiner can normally be reached on 9:00-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Huynh can be reached on 571-272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alc
27 October 2005

KIM HUYNH
PRIMARY EXAMINER